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**REMARKS**

Claims 1-31 are pending in the present application. Claims 1, 3, 6, 13, 14, 19, 20, and 27 have been amended, and Claims 32 and 33 have been added, leaving Claims 1-33 for consideration upon entry of the present Amendment.

Support for the amendment to Claims 1 and 19 can be found in the Specification at Page 8, lines 8-9.

Support for the amendments to Claim 3 can be found at least in Claims 1 and 3 as originally filed.

Support for the amendment to Claim 6 can be found in Claims 1 and 6 as originally filed.

Claims 13, 14 and 27 have been amended to correct a typographical error. Support for the amendments can be found in the Specification on Page 7, line 25.

Support for the amendment to Claim 20 can be found in Claims 19 and 20 as originally filed.

Support for new Claims 32 and 33 can be found at least in Claims 1 and 19 as originally filed.

The Specification has been amended to correct a typographical error.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims is respectfully requested in view of the above amendments and the following remarks.

**Claim Objections**

Claims 13, 14 and 27 stand objected to. The misspelling of "faujasite" has been corrected. Withdrawal of the objection is requested.

**Claim Rejections Under 35 U.S.C. § 112, Second Paragraph**

Claim 3 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The word "washcoat" has been deleted from "overlayer washcoat" to provide proper antecedent basis. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112 are requested.

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Claim Rejections Under 35 U.S.C. § 102

Claims 1-2, 4-9, 11-23 and 25-31 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,662,869 to Abe et al. (hereinafter "Abe"). Applicants respectfully traverse this rejection.

The present application teaches and claims a catalyzed adsorber for treating exhaust gas comprising a substrate; a zeolite underlayer disposed over the substrate; and a catalyst overlayer disposed over the underlayer, wherein the overlayer is zeolite free. The present application further claims a method for making a catalyzed adsorber system for treating exhaust gas comprising providing a substrate; disposing an underlayer over the substrate; and disposing a catalyst overlayer over the underlayer, wherein the overlayer is zeolite free. The catalyst layer is less than about 3 wt% zeolite. Essentially, the separation of the catalyst and the zeolite prevents the catalyst or its chemical precursors from interacting with the zeolite. Such interaction between the catalyst and the zeolite would negatively impact the long-term performance of the catalyzed absorber.

Abe discloses an exhaust gas purification system comprising an adsorbant (Abstract). The catalyst-adsorbant can comprise a layered structure with a first layer of zeolite and noble metal and a second layer of a composite oxide of  $\text{Al}_2\text{O}_3$ - $\text{CeO}_2$  with a noble metal coated on the first layer (Col. 6, lines 40-47). The first layer containing the zeolite can have 5-40 g/ $\text{ft}^3$  of noble metal (Col. 5, lines 63-64). Abe is silent about the amount of zeolite that can be in the second layer, i.e., the layer containing a composite oxide and a noble metal.

In making the rejection, the Examiner cites Col. 6, lines 40-47 of Abe describing a layered catalyst-adsorbent (Paper 6, Page 3). Applicants submit that Abe at least fails to disclose the instant claim element of a catalyst overlayer that is zeolite free.

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988). Applicants submit that Abe fails to disclose a catalyst overlayer "wherein the overlayer is zeolite free" as required by the instant claims.

Applicants further submit that Abe does render the instant Claims obvious. In particular, Abe fails to teach or suggest the separation of the noble metal and the zeolyte

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as in the instant Claims, i.e. "a catalyst overlayer, wherein the overlayer is zeolite free". The instant Application teaches the non-obvious advantages of separating the noble metal and the zeolite as improving "the durability of the zeolite as well as preserving noble metal dispersion" (Page 10, lines 2-3).

For at least these reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are requested.

Claim Rejections Under 35 U.S.C. § 103(a)

Claim 3 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Abe in view of EP 0 904 827 to Noda et al. (hereinafter "Noda 827"). Applicants respectfully traverse this rejection.

Noda 827 discloses a catalyst-adsorbant comprising a monolithic carrier, an adsorbant layer and a catalytic layer (Abstract). The adsorbant layer can comprise a zeolite (Page 5, line 16). The zeolite preferably comprises 5 to 150 g of noble metal per ft<sup>3</sup> of carrier (Page 5, line 40). Noda 827 is silent about the amount of zeolite in the catalytic layer.

In making the rejection, the Examiner states "...it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the catalyst-adsorbant taught by Abe et al. in light of the teachings of Noda et al. to include the use of a catalyst overlayer having a thickness as described by Noda et al." (Paper 6, Page 5).

While Noda does teach a two-layer catalyzed adsorber, Applicants submit that Noda 827 does not cure the defects of Abe. Claim 3 is dependent upon Claim 1 which recites catalyst overlayer "wherein the overlayer is zeolite free". Abe and Noda 827 do not teach or suggest this element of instant Claim 1.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

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Applicants submit that there is at least one element of the instant claims that is not taught by Abe and Noda 827, alone or in combination, namely the catalyst overlayer "wherein the overlayer is zeolite free". Since Abe and Noda 827, alone or in combination, fail to teach or suggest catalyst overlayer "wherein the overlayer is zeolite free", a prima facie case of obviousness has not been established.

For at least these reasons, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is requested.

Claims 10 and 24 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Abe in view of EP 0 748 774 to Noda et al. (hereinafter "Noda 774"). Applicants respectfully traverse this rejection.

Noda 774 discloses a system for exhaust gas purification. The system includes a hydrocarbon adsorber such as a zeolite (Page 7, lines 34-35). The zeolite preferably contains a precious metal (Page 7, lines 51-52). The adsorbant is disclosed as disposed upstream of the catalyst (Page 8, lines 16-17).

In making the rejection, the Examiner states that Noda teaches a catalyst loading of "30-250 g/ft<sup>3</sup> (0.017-0.144 g/in<sup>3</sup>)" (Paper 6, Page 6). While Noda 774 does teach a catalyst loading in the range cited by the Examiner, Noda 774 does not cure the defects of Abe. Claims 10 and 24 are dependent upon Claims 1 and 19, respectively. Both Claims 1 and 19 recite an catalyst overlayer "wherein the overlayer is zeolite free". Abe and Noda 774 do not teach or suggest this element of instant Claims 1 and 19. Thus, there is at least one element of the instant Application that is not taught by Abe and Noda 774, alone or in combination. Since Abe and Noda 774, alone or in combination, fail to teach or suggest catalyst overlayer "wherein the overlayer is zeolite free", a prima facie case of obviousness has not been established.

For at least these reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

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If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully Submitted,  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE  
IN THE SPECIFICATION**

The following paragraph is a marked-up version of the paragraph on Page 7, lines 24-30.

--The preferred zeolite to be used in the manufacture of a catalyzed adsorber of the present invention is a faujasite~~fauj~~site having a Si/Al ratio between about 3.0 and about 10 and a Na content less than about 0.1 wt.%. The low sodium content is achieved by ion exchanging the zeolite with ammonium cation or other metal cations by means well known in the art. An example of the preferred zeolite is LZ-210 manufactured by UOP, Inc. which is described in U.S. Patent No. 4,711,770, incorporated herein by reference.--

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IN THE CLAIMS

Marked-up versions of the amendments to Claims 1, 3, 6, 13, 14, 19, 20, and 27 follow:

1. (Amended/Marked-Up) A catalyzed adsorber for treating exhaust gas, comprising:

a substrate;

a zeolite underlayer disposed over the substrate; and

a catalyst overlayer disposed over the underlayer, wherein the overlayer has a non-catalyst loading of about 1.0 g/in<sup>3</sup> or less zeolite free.

3. (Amended/Marked-Up) The catalyzed adsorber of Claim 13, wherein the overlayer-washcoat has a thickness less than about 30 microns.

6. (Amended/Marked-Up) The catalyzed adsorber of Claim 32+, wherein the overlayer non-catalyst loading is about 0.8 to about 1.0 g/in<sup>3</sup>.

13. (Amended/Marked-Up) The catalyzed adsorber of Claim 12, wherein the zeolite is a faujasite-faujizite.

14. (Amended/Marked-Up) The catalyzed adsorber of Claim 13, wherein the faujasite-faujizite has a Si/Al ratio of about 3.0 to about 10.

19. (Amended/Marked-Up) A method for making a catalyzed adsorber system for treating exhaust gas, comprising:

providing a substrate;

disposing a zeolite underlayer over the substrate; and

disposing a catalyst overlayer over the underlayer, wherein the overlayer has a non-catalyst loading of about 1.0 g/in<sup>3</sup> or less zeolite free.

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20. (Amended/Marked-up) The method for making the catalyzed adsorber as in Claim 33-19, wherein the overlayer non-catalyst loading is about 0.8 to about 1.0 g/in<sup>3</sup>.

27. (Amended/Marked-Up) The method for making the catalyzed adsorber as in Claim 19, wherein the zeolite is a faujasite~~faujasite~~.